CARNIVOROUS PLANT NEWSLETTER

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Front Cover: *Nepenthes sibuyanensis*. Photo by Phill Mann.
Rear Cover: *Sarracenia purpurea* subsp. *venosa* var. *burkii* f. *luteola*. Photo by Jim Miller.

Carnivorous Plant Newsletter is dedicated to spreading knowledge and news related to carnivorous plants. Reader contributions are essential for this mission to be successful. Do not hesitate to contact the editors with information about your plants, conservation projects, field trips, or noteworthy events. Contributors should review the "Instructions to Authors" printed in the March issue of each year.

Views expressed in this publication are those of the authors, not the editorial staff.

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Letter from the Editor "Carnivorous Plant Newsletter is becoming too technical!"

Barry Meyers-Rice

It has happened to me more than a dozen times in the last few months. There I am, at a meeting of carnivorous plant enthusiasts, when someone complains to me,

"Carnivorous Plant Newsletter is getting too technical!"

Is it? Curious, I spent an evening analyzing how the newsletter's content has changed over the last twenty years. I classified every article that had appeared using the broad categories of Editorials, News & Views and social events, Cultivation, Field trips and conservation (I grouped these two topics because so many field trips contain discussions of conservation issues), Densely scientific papers, Literature reviews, and Other topics (articles about stamps, history, poetry, etc.). I opened every issue. I classified each article, counted pages, and tabulated my results. It took all night.

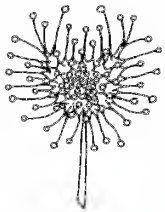
A few interesting results stood out from my census. The average ratio of scientific to horticultural articles has been surprisingly steady, at about 1.2:1. But last year the ratio was 2.6:1. So those subscribers talking to me at meetings were not imagining a change in the newsletter's composition.

I discussed this result with many members, and some suggested I conduct a reader survey to help guide me in my editorial duties. I do not want to do this, because surveys will not help change the content of Carnivorous Plant Newsletter. There is one and only one way to change the newsletter's content—readers must contribute! It is that simple! Jan and I cannot wave magic wands over each issue—we need your articles!

Another interesting result from my study of back issues is that the amount of News & Views material has been diminishing. Apparently the readership is getting lazy. This will not do. If smaller submissions such as News & Views or horticultural pieces stop arriving at my mailbox, the large scientific contributions to the newsletter will dominate. This will result in the tone of the newsletter changing, and much of its charm may be lost. Submit your horticultural hints, field trip experiences (surely people are visiting places other than *Nepenthes* country!), and news about carnivorous plants in your life.

And what about the name, "Carnivorous Plant Newsletter"? Many people have asked us to change it to something more grand like "Carnivorous Plant Journal." We are hesitant to make this change because the name Carnivorous Plant Newsletter is well known and respected in the world of publications. But we have changed our cover by using a new title font and adding the parallel title, "Journal of the International Carnivorous Plant Society." This seems like a good compromise. Do you like it? But remember, this is just the wrapping on the newsletter's exterior—its content is far more important.

Did you notice that regardless of the different topics in this editorial we keep returning to content? And the only way to mold the newsletter's content is to write pieces for it. So get to work! Write!



"FEEDING YOUR PLANTS"

PETER D'AMATO

Keywords: cultivation:general

In horticulture, feeding one's plants usually means the application of fertilizers. With carnivorous plants, of course, we are speaking literally!

If you are growing your plants outdoors, feeding them certainly will not be necessary. Outdoors, carnivorous plants will lure, catch and eat numerous insects on their own—flies, ants, gnats, moths, beetles. Plants cultivated outdoors will attract and feed on prey similar to those they lure in their natural habitats. Flying insects are usually the most common victims. But even ants will not necessarily be deterred by water trays that surround the pots. Older trumpet leaves may lean over and touch the ground, forming a bridge for ants to cross. Some people I know purposely put twigs or sticks across water barriers to entice crawling insects to visit their potted plants, a visit the insect may later regret. Be warned, however, that bridges to pots set in water trays will also allow certain pests to access your plants, and a slug may eventually be caught in a flytrap only after having munched a few holes in a tender and newly emerging *Sarracenia* leaf.

Outdoors, some carnivores will catch startlingly large quantities of insects. A sundew's leaves may be black with gnats, every flytrap leaf may be shut tight upon flies, and *Sarracenia* trumpets may topple from the weight of hundreds, if not thousands, of prey. The pitiful buzzing of trapped yellow jackets or flies may be unsettling to some people. I warn the sensitive never to peer down the tube of a trumpet plant that is infested with ants and flies. The ants, quite insane by their trapped predicament, will be unmerciful upon the helpless housefly who tumbles into their madhouse prison. (At times I have been so disturbed by their suffering I have freed ladybugs and even yellow jackets from an agonizing death.)

Even carnivorous plants indoors on sunny windowsills or in ventilated terrariums will catch prey. This can surprise people who do not even know these bugs are their house guests. Flies, gnats and moths are the most frequent prey. Greenhouses, too, are usually crawling with various potential plant foods, unless insecticides are heavily used.

And here lies a warning about ants. Although I have rarely encountered this with outdoor plants, while ants in a greenhouse will provide ample food to American or tropical pitcher plants, they will also sometimes cultivate scale insects and aphids from which the ants extract honeydew. This may be an ironic revenge tactic of the ants (if they were able to think!): plant eats ants, ants farm scale on plant, scale eats plant, ants feed on scale. Nature works in funny ways.

Ant colonies in the greenhouse are often of the mobile sort. A queen may set up a nest in a potted *Nepenthes* then wonder why all her workers are disappearing. (I have never found ant nests to do any particular damage to the roots of a potted carnivorous plant.) When the pot is watered, the whole nest swarms in a panic, carrying eggs and pupae out of the deluge. They promptly move the nest to another pot, or return when the water drains. If you have ant nests in your potted greenhouse plants, keep an eye on them. At the first sign of scale, you will have to use an insecticide. You may want to discourage ants by laying a few flea collars around the infested pots to keep the ants away.

When it comes to plants grown in insect-free areas, you have several possibili-

ties on how to feed them. One method is to feed them by hand. Forceps or tweezers are helpful. If you catch a fly on a windowsill, it is usually much easier to apply the doomed insect by means of forceps into the maws of a venus flytrap. Since you will have to stimulate the trigger hairs within the trap, you cannot simply drop the fly in—often the fly escapes just as the trap closes. Be sure to wash your hands after handling germ-ridden flies and urge children to do likewise. Otherwise feed plants cleaner food such as sow bugs or pill bugs.

Many carnivorous plants eat tiny insects. You may gather small ants from a trail on a sidewalk with a damp paper towel and drop them into a paper cup. Your neighbors may think you are strange, but if they know you grow carnivorous plants, they think you are strange anyway! You will have to separate the ants from the grains of sand and other debris. Then the ants can be then sprinkled onto sundews and butterworts.

Alternatively, some windowsill plants may be placed outdoors temporarily to catch their own food. Be careful not to place them in an area hotter or sunnier than their normal environment or the plant may burn or go into shock. Shade is best for a windowsill plant placed outdoors for "the hunt."

Aquatic bladderworts typically feed on minute swimming things like daphnia or water fleas. You can collect these in almost any pond or lake in paper cup or ziplock bag, add this water into the water bowl where you grow your *Utricularia.*

Perhaps the easiest way to feed most carnivorous plants grown in an insect-free environment is to visit your local pet shop. Here you will usually find a great assortment of insect food, particularly if the shop caters to reptile and amphibian fanciers. Live crickets, from pinhead sized newborns to adults can be used to feed plants ranging from venus flytraps to pitcher plants. Wingless fruitflies can be fed to sundews, butterworts, rainbow plants, and other sticky plants. Mealworms will drown quickly when dropped into various pitcher plants, but make sure they do not escape or they may infest your soil.

You may also freeze these insects for future use, whether you purchase them or catch them yourself. If feeding your plants live insects makes you feel ill or guilty, there are also various dried insect food available at good pet shops, which most carnivorous plants readily accept. Some are even vitamin fortified! Dried flies, *Musca* larvae and ant eggs will save you much fuss and bother. Even plants such as sundews, which normally require some moving stimuli to activate the feeding process, will soon curl around and drool over a dried insect applied to the leaf.

Carnivorous plants will also sometimes eat human food. (I am not suggesting you feed your plants humans. That is highly illegal!) But some carnivorous plants will accept tiny bits of raw hamburger, cheese, powdered milk and even chocolate. But these food products may be harmful to your plant. A sundew leaf may curl around a bit of Hershey's chocolate, secreting digestive juices and making a pig out of itself. But a few days later, mold or fungus may set in, so it is best to avoid such food as a regular part of their diet.

Do carnivorous plants really need to eat insects for their health and well being? The answer is more of a yes than a no. Insect food is highly beneficial to most carnivorous plants in providing them with the extra nutrients they need to flower, set seed and grow larger each year. Since they grow in such poor soils, when deprived of such nutrients and minerals a gradual decline in the plant's health will occur. They may not flower or set seed. The following year the plant may grow weaker, and the year after that, weaker still.

This does not mean you have to feed your plants on a daily basis during the growing season! A once-a-month feeding schedule from spring through autumn will usually do the trick. A few houseflies for your flytrap and a dozen or so crickets for your pitcher plants will usually provide them with the minerals they need for good growth. But you will probably notice that your healthiest plants are the ones that have eaten the most!

A Trip to the Philippines

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Keywords: field trip: *Nepenthes*, Philippines

Our three week trip to the Philippines was the result of many months planning (involving correspondence back and forth between Australia, Germany and the Philippines), numerous delays, minor obstacles, and a fair degree of research. While the logistics were difficult, by some miracle it all came together midway through 1996. My travel partners were Thomas Alt (with whom I had previously travelled in southeast Asia) and Trent Smith who was living and working in Manila.

I met Thomas and Trent at the Manila airport on 25 September 1996. Thomas had arrived in the Philippines a few days earlier and had already travelled down to Mindanao in the south of the country to check out some good locations for our investigations. Trent was the best of hosts and made us feel at home in the unbelievable city of Manila while we prepared for the first leg of our journey. He also provided us with a useful update on the law and order situation in the parts of the Philippines we were to visit.

Upon our arrival in Davao City, Mindanao, we travelled by jeepney (a modified Jeep) to the town of Magwab, and then northeast to an area we hoped would give us access to high ground and natural forest. As we quickly discovered, natural forest in the Philippines is rare. Less than 5% of the country's rainforest remains untouched by axe or fire. The habitat of many *Nepenthes* species is rapidly diminishing.

While the road we had chosen looked promising on the map, it turned out that it led to a still-operating gold mine, and the security guards refused us entry to scout for plants. As this is sometimes referred to as the land of "Goons, Guns, and Gold" we did not press the point and turned back. Back in Magwab we tried another approach and asked at a local orchid nursery if they knew locations of pitcher plants (referred to locally as the "pitchel pitchel plant"). He replied that he had seen many but they were on the other side of the mountain towards the sea and after a walk of many days. With our enthusiasm severely dented we swapped our jeepney for the bus north to the town of Surigao.

The next day we travelled south to a small village and then set off by foot to climb Mt. Hilong hilong. From the village,

Figure 1: *Nepenthes truncata*

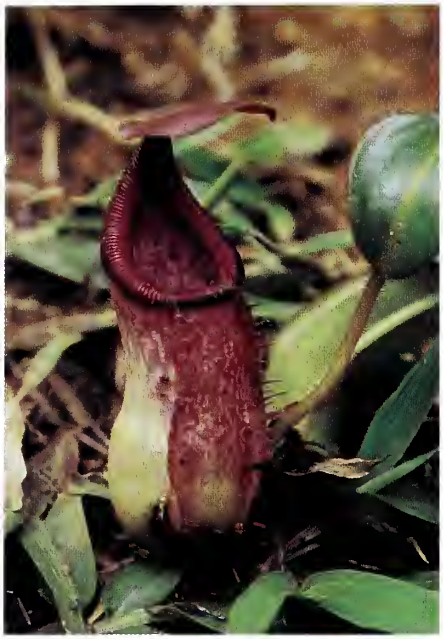

Figure 2: *Nepenthes petiolata.*

Figure 3: *Nepenthes truncata* × *alata.*

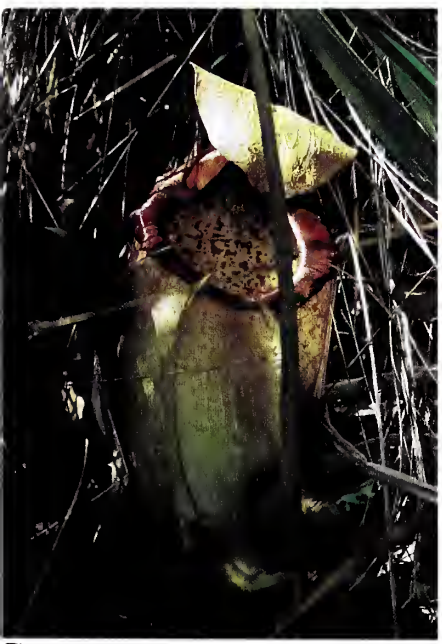

Figure 4: *Nepenthes merrilliana.*

Figure 5: An unknown *Nepenthes* species from Palawan Island.

the climb was along a very steep, open track which offered no shade. It was hot in the full tropical sun, and even our guide felt the heat. At about 1600 m altitude, Thomas found our first *Nepenthes*, a seedling most likely to be *N. alata*. We found more seedlings than anything else, due to the constant slash and burn farming in this area. As a result of this destructive form of farming, the creepers and weeds of the jungle had over taken most of the ground, and only areas of thin cane grass offered habitat where *Nepenthes* seeds could germinate and survive. The constant burning ensures that most adult plants live in a precarious existence.

Inspired by the discovery of our first plants we set off again, finally resting on a ridge in the late afternoon. While we caught our breath our guides returned with two plants in hand. One was a juvenile plant of *N. truncata* about 3-4 years old. It was huge with leaves that were 40 × 40 cm and had a beautiful pitcher 42 cm tall with a striped peristome (Figure 1). The other seedling was of a very hairy plant with dark green thick leaves and a bright red pitcher about 10 cm tall (Figure 2). It was unlike anything I had seen but was a definite highland species and reminded me of a juvenile *N. macrophylla*. I later compared this with the description and especially the drawing of *N. petiolata* in Danser (1928). I am convinced this is the true form of *N. petiolata*, not seen since the early 1900's.

We spent the rest of what was a very wet afternoon in a torrential downpour looking for more plants but only found a few *N. truncata* specimens. The next morning revealed more of the same hidden in the cane grass. We also found what I think was *N. alata*, but the pitchers were so variable and hairy it was hard to be sure. It was while searching through this 3 meter high cane grass that Thomas suffered the bad luck of having one of the grass leaves puncture his eardrum. This accident proved a big problem for Thomas in the following days. With time running out, the increasing heat of the day and the thought of the long hot journey back, we left the mountain to return to our air-conditioned hotel and cold beers in Surigao.

The next day our attentions turned towards the Mt. Legaspi area, a destination that proved to be full of dangers. After our jeepney broke down for the fourth time we told our driver to find us later once his jeepney was repaired, and we hitched a ride with a bus. At the next village, four heavily armed soldiers boarded our bus. Shortly thereafter, when we stopped the bus near an area which looked promising the soldiers became very tense and tried to prevent our leaving. Not understanding their intentions, we disembarked and began exploring the surrounding hills.

The terrain here was not the landscape you would expect to harbor *Nepenthes*. The ground was a very dry powdery red loam, and our feet sank as we walked. There were no trees and the surrounding bushes were stunted, thin and under three meters tall; all looked as though they were suffering with the heat. Erosion cut deep gullies into the sloping hills. In many ways it reminded me of the desert country in Western Australia. Many *Nepenthes* plants survived here, particularly in the gullies where the extra moisture could be found. As we began setting up our cameras, someone not more than several hundred meters away began firing with an automatic rifle. Shots whistled across the valley. With this we headed further around the hills as quickly as we could.

It took some time for our hearts to stop pounding and for our attentions to return to the plants. We found numerous beautiful forms and colours of *N. alata*. Variations in these plants only added to our confusion as to whether they were *N. alata*, *N. petiolata*, or hybrids between the two. The fluid in the *N. alata* pitchers growing in the full sun was actually hot (it must have been 25-30°C and did not burn the plant).

One of our aims for the trip was to find seed, but although we found many plants here none contained mature fruit. Also, it appeared many of the seedlings had perished with the heat. In one of the gullies I found a large *N. merrilliana* × *alata* hybrid plant with huge green pitchers and red peristome; *N. alata* was the predominant parent in this hybrid. Although large its pitchers were plain in colour.

The *N. alata* plants varied in colour from bright green to dark red with brown blotches. Another very nice small plant with large pitchers was *N. truncata* × *alata* (Figure 3). It was struggling against the heat under a sparse bush. Strangely, under these bushes with the *Nepenthes* grew a type of slipper orchid (*Paphiopedilum*).

As we moved further around the hills we realised that that most of the plants were clinging to what little extra moisture remained in the gullies. It was in one of these gullies that we found mature *N. merrilliana* plants. They were impressive with huge leaves 40-50 cm long and 15 cm wide. The largest of the pitchers was 35 cm long and 12 cm wide, and was green with dark red mottling. I found several very good mature seed spikes and this made my day. Although I failed to locate the *N. globamphora* plants that Thomas had previously found in this area, I was happy with the day's discoveries.

The next day we took a different approach in our search for plants. No jeepney this time—instead we tried an outrigger boat. Our guide had convinced us that *Nepenthes* plants could be found on nearby islands, so early in the morning on a flat sea we set out for a two hour voyage. It was extremely pleasant, the water was calm and the breeze was a cool respite. As we neared our destination a coral reef outcrop sheared the propeller off the boat, even though we were still several kilometers from shore. It looked quite amusing that the owner was standing waist deep in water so far from shore. It was a minor job for him and was obviously a common occurrence.

When we arrived the tide was out; this meant wading through the mud of the mangroves. Amazingly, on the shore line behind the mangroves, growing not more than a meter from the salt water level were many large plants of *N. merrilliana* (Figure 4) and *N. merrilliana* × *alata*. This was another area that had been logged hard and burnt so many times that there were no trees remaining—only shrubs 2-3 metres tall remained. The *Nepenthes* were just hanging on to existence and the area gave the impression that in ten years or so, or after several dry years, *N. merrilliana* would disappear and only the stronger hybrids would remain. I managed to collect some seeds and take many photos before the heat got the better of us. We headed back to the mainland to catch a flight back to the smog and crowds of Manila.

The next leg of our trip involved a journey to an isolated island in the central part of Philippines called Sibuyan. Trent had flown over the island a couple of years earlier and was taken with the rugged mountains, and was very keen to travel there. It took us several days to organize a trip to Sibuyan Island, as there was no available information on how to get there. Trent managed to find a newly formed airline that would to fly us to Tablas Island which is near Sibuyan Island. We subsequently departed without Thomas. His ear had become infected and he was ordered by a doctor not to fly. Thomas was not pleased.

After jeepney rides on Tablas Island (some spent sitting on the roof, the best way to ride), we left for Sibuyan Island by ferry. As we approached, I could see how others had described it as 2000 meters of mountain rising straight out of the ocean. Covered in clouds and looking like the picture set for the King Kong movies, it was an impressive site. I was very lucky to have Trent with me; his knowledge of customs and the native languages helped immensely. We docked at the port of Magdiwan and left for the village of Lontok. We met with the village captain and were privileged to be invited to dine with him and camp the night in his house. Unfortunately he informed us that to reach the mountains from his village would involve many days of hiking down and over steep gullies. As we were short of time, we backtracked to a small village close to Magdiwan where we hired guides and porters. We set off with the almost unnerving sight of this steep mountain in front of us. It was not long before we entered what was the closest to real virgin forest we

saw on the entire trip. It was a pleasure to be walking in the forest—even as hot as it was—and we quickly gained altitude. The rain that fell in the next few hours was some of the heaviest tropical rain I have experienced and it gave the forest a strange atmosphere. The strange sounds of the frogs, birds, and other animals added to the prehistoric feeling. When the jungle floor became rainsoaked, bright blue earthworms 25 cm long appeared everywhere.

In time we located the remains of the camp made by an expedition from Kew Gardens some two years before. Not much further on Trent found a *Nepenthes* pitcher. It was an unusually spotted upper pitcher and its stem was trigonal, with corners. The lower pitchers were squat, bulbous, 10-12 cm tall and mostly a deep purple colour. This is possibly a form of *N. alata* but the typical keel under the pitcher lid was missing. This species appeared at about the 1000 m altitude.

After setting up camp in the afternoon, we found *N. sibuyanensis* (see Front Cover). This species has only recently been described (see Nerz *et al.*, 1998). Growing in the steep grassy slopes, we could see its large *Nepenthes* seed racemes, but getting to them was very dangerous. With a great deal of engineering and hanging on tightly to anything he could, Trent manoeuvred out and what he found was amazing. It was obviously a close relative of *N. ventricosa* and *N. burkei* but the pitchers achieved very large proportions. The largest of these pitchers were 25 cm high and 15 cm wide, cylindrical, green coloured with purple flecks and had wavy peristomes similar to that of *N. ventricosa*. The peristome was dark red to purple-black, 2 cm wide and perfectly symmetrical in the mouth shape. This plant was a stunted highland form with grey-green leaves 15-18 cm long, 4-5 cm wide wrapped to the stem and had virtually no internodes. The plants never attained a height over 1.5 m. Hidden among the surrounding shrubs, the pitchers were very rarely exposed to full sun. Later Trent found a plant with pitchers in the full sun and these were vivid red in colour. There were very few plants that could be reached in safety, but we managed to get some good photos and some nearly mature seeds before the fading light sent us back to camp.

The next morning we set off for the grassy slopes of an upper alpine area. The nearly vertical path was tough and perilous. The footing was slippery, and most of the time you could not see your feet in the thick ferns and heath. It was on one of these climbs that I noticed what appeared to be a *Nepenthes* rosette. When I looked closer at this dark green, very hairy plant, I noticed that although the rosette was only 10-12 cm wide it was mature and had a male flower spike and the remains of last year's flowers. These plants appear to send their stems along under the heath for up to a metre before forming the rosette, acting like a rhizomatous shoot. When I lifted out one of the extremely hairy tendrils I knew I had a new species, which was recently described as *N. argentii* (Jebb & Cheek, 1997). The tendrils reminded me of the arms of an orangutan, thickly covered with red-brown hairs. The pitcher was also very hairy and purple brown. It was 4 cm tall, narrow at the base, and widened to 2.5-3 cm at the top with a predominant shoulder just under the peristome. The peristome was finely ribbed, 1-2 mm wide and dark purple-black in colour. The most unusual aspect of the pitcher was that the peristome widened to 6-7 mm at the neck and had its teeth facing forward, and then flared up and out in a "Y" shape under the lid. They were 5-6 mm high and wide. Many other *Nepenthes* have the peristome arranged up the neck in similar fashion but none have the "Y" shape. I spent about three hours searching this area but only located four plants as the slopes made it too dangerous to venture far. One plant eight meters away took me nearly an hour to reach—the slope was about 65 degrees with nothing to stop your fall for 400 meters. At this altitude (approximately 1800 m) flower spikes of *Nepenthes sibuyanensis* were visible in many areas of the grassy heath so it appears relatively common. Having finished with the photographs and collecting some seeds, we headed back.

Our last journey was to Palawan Island. Trent had located *Nepenthes* here

while exploring during a holiday weekend. Palawan Island is the last land mass between Borneo and the Philippines and is described as the last wilderness. It is famous for its mountains with vertical white limestone walls up to 2000 m tall. It has an underground river and many beautiful white beaches. It is also very, very hot. I found that even standing by the ocean did not provide relief from the heat. During a four-hour jeepney ride from Puerto Princesa to our beach destination we located an area with many large plants of what may have been *N. alata*. The pitchers were variable in shape and colour. The area had been cleared when the road was constructed and the plants had managed to take advantage of the clearing. There were many mature plants climbing through the trees. After many photographs and seed collecting we continued on.

We booked our chalets and meals for the night and left for our final *Nepenthes* site. After tripping and falling over rocks for a kilometer we came across a waterfall which created a miniature cool environment. Here the *Nepenthes* plants were surviving at sea level. We had to climb the nearly vertical slopes alongside the waterfall. It was exhausting with the heat and thick jungle. The plants grew amongst the trees at the top of the waterfall. The river flowing all around them kept them cool. Although similar to *N. alata*, these plants appeared very striking and the red colours were beautiful (Figure 5). The upper pitchers which were mostly green in colour, grew to be 20-22 cm long, and developed a broad peristome. We managed to find one mature plant with a couple of spikes so I collected some seeds.

The next day we headed back to Manila to prepare for the trip home, after three great weeks away. When I returned home I learned that most of the old original specimens of Philippine *Nepenthes* had been destroyed many years ago, and I should have collected some herbarium material. I suppose it will be an excuse to one day revisit the area.

Two of the *Nepenthes* from Sibuyan Island (*N. argentii* and *N. sibuyanensis*) are new to science. The identity of the plants we found at the second Palawan Island site is a mystery. The plants fit neither the description of *N. deaniana* nor that of *N. alata*. These plants may warrant the resurrection of *N. philippinensis*—the debate is continuing.

Sibuyan Island is a wonderful area that hopefully will be preserved in its natural form and is well worth further study—we hardly touched on the main areas. With the correct equipment and plenty of time, who knows what could be found there. Mt. Sibuyan and Guiting guiting have now been named by presidential decree as Guiting guiting National Park. Commercial logging has been halted in this park area. Logging is still going on around the perimeter and occasionally into the Park area by locals for housing materials. I hope that it is not too late to save this ecological paradise.

References

Danser, B.H. 1928, The Nepenthaceae of the Netherland Indies, Bull. Jard. Bot. Buitenzorg, Serie III, Vol. IX, 3-4.

Jebb, M. and M. Cheek, 1997, A Skeletal Revision of *Nepenthes* (Nepenthaceae), Blumea, Vol. 42, 1-106.

Nerz, J., Mann, P., Alt, T. and T. Smith, 1998, *Nepenthes sibuyanensis*, a new *Nepenthes* from Sibuyan, a remote island of the Philippines, Carniv. Pl. Newslett. Vol. 27, 18-23.

News & Views

Daniel Joel (Newe-Ya'ar Research Center, Ramat-Yishay 30095, Israel) sent us the first issue of Tlalit, the newsletter of the Carnivorous Plant Society of Israel. This twelve page periodical is stuffed with information about trap movement in Venus Fly Traps, Butterworts, carnivorous plants as presents, late-breaking news, and other interesting topics. If you can read Hebrew, you should contact Tlalit!

Richard Ellis (303-666-9534, ricell@juno.com) writes: Rocky Mountain members of the ICPS unite! A meeting of carnivorous plant enthusiasts is being planned for Denver, CO. We will be meeting on Saturday April 25th at the Morrison Center Building of the Denver Botanic Gardens at 7:00 p.m. Come share your ideas and love of carnivorous plants with your CP-growing neighbors and become a founding member of the Rocky Mountain Chapter of the International Carnivorous Plant Society. Details will be sent to ICPS members in WY, UT, CO, AZ, NM, NE, KS, and OK. For further information please contact me.

Alessandro Delfrate (Via Rossini 6, 20060 Cassina de Pecchi, Milano Italy) writes: We had a carnivorous plant meeting at the nursery of Furio Ersetti, the only carnivorous plant nursery here in Italy. We were more than 30 people, and some of the plants on the display were excellent. We are organizing a carnivorous plant society in Italy, and we hope to be active next year. Thanks for your help and best regards from Alessandro Delfrate.

Marcello Catalano (Via Ronchi 2, 20134 Milano, Italy) has additional news from Italy: I'm happy to send you this news about Italian CPers. The Italian Carnivorous Plant Society (AIPC) was finally born. If everything goes well, at the beginning of January 1998, the first issue of our bulletin will be published for an audience of at least 30 members. It would be nice to enclose this notice in your newsletter to let the planet know that we have a newsletter too.

Henk Luyten (hluyten@direct.ca) emailed us news about the activities of the Pacific Western Carnivorous Plant Society, who held their most recent meeting August 10, 1997 at the Richmond Nature Park, Richmond, BC, Canada. This group is very active, and their next meeting is tentatively scheduled for 16 May, at the same place. Be there!

Andrew Marshall (131 SW 185th Street, Normandy Park, WA 98166) emailed us about more activities of those northwestern US and Canada enthusiasts. They have been taking care of an artificial carnivorous plant bog but could use some help. Andrew writes: Don, Jim and I have managed to get a handle on the invading blackberries. We are now getting the peat together for adjusting the soil. There are several things that need to be done first however. The plastic weed barrier that was laid down has been compromised by weeds. In other places the soil is covered with small weeds. The layer of soil on top of the weed mat needs to be removed. It would not be too difficult for a good work party.

From the pages of Carnivorous Plant Newsletter 25 years ago

Richard Silverteen noted some local color: "In the spring of 1970, I was stationed at Keesler AFB in Biloxi, Mississippi....The natives here call these red-veined pitcher plants (*S. alata*) `butter-cups' because their flowers look just like a round cup overflowing with butter-like petals on five sides. The smaller pitcher plants, the parrot pitcher (*S. psittacina*) were sometimes called `blood-cups' because of the red petals."

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Botanist E. T. Wherry recalled his *Sarracenia* discovery: "Some years ago I discovered near Flat Rock, North Carolina, a spectacularly showy pitcher plant, and duly named it *Sarracenia jonesii*....When I went back to the type meadow some years later, it had been turned into a potato field. So visits were made to another early-found locality near Etowah station. Alas, the meadow south of the station had been burned over repeatedly, and only weeds were in evidence. But a similar habitat north of the station seemed so remote that it might hopefully be less disturbed; behold, the place had been turned into a golf course."

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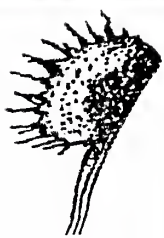

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History of Discovery: Yellow Flowered *Sarracenia purpurea* L. subsp. *venosa* (Raf.) Wherry var. *burkii*

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Keywords: conservation: reports — new taxa: *Sarracenia purpurea* — observations: pigmentation.

Proposed new form: *Sarracenia purpurea* L. subsp. *venosa* (Raf.) Wherry var. *burkii* Schnell f. *luteola* Hanrahan & Miller *f. nov.*

Way back in August of 1985 I managed to complete the last original objective for my carnivorous plant nursery, World Insectivorous Plants. The acquisition and preservation of a natural carnivorous plant bog was conceived to be its crowning achievement. I purchased and saved from destruction an interesting forty acre gulf coast savanna bog in Elsanor, Baldwin County, Alabama. Baldwin County in lower Alabama has the distinction of being the fastest growing county in Alabama. Unfortunately, this new distinction may be translated quickly into eventual extinction for most carnivorous plant sites. Massive pitcher plant stands that were once common on commercial and private properties are being transformed into other uses on a regular basis. Carnivorous plant buffs who once remembered Baldwin County as "leuco country" would be devastated to see the recent changes. If you ever had the chance to see a majestic stand of *Sarracenia leucophylla* in Baldwin County, keep it in your memory. The old moniker was well deserved.

Actually, the county could be considered the hub of *Sarracenia* migration, distribution, or even perhaps evolution because six species have been discovered within its borders. Specifically, the acreage that I purchased originally had *Sarracenia leucophylla, S. purpurea* subsp. *venosa* var. *burkii, S. psittacina, Drosera capillaris, D. filiformis* var. *tracyi, D. intermedia, Pinguicula lutea,* and *Utricularia juncea.* Additionally, *Sarracenia alata, S. flava,* and *S. rubra* subsp. *wherryi* were found within 30 km (18 miles) from the site in other isolated bogs.

I began an earnest search for the ideal bog in Baldwin County in late 1984. I was lucky and managed to connect with a very savvy real estate agent who fully understood what I was looking for. The local jargon for pitcher plants was "bug catchers," so I used the term to describe what was needed on the property. In March of 1985, she called and said she had a forty acre plot that looked promising. Jim Miller, a good friend of mine who once lived in Tallahassee, Florida, just could not wait to see and explore the savanna bog. Jim, a carnivorous plant enthusiast, professional photographer, and author of "The Status of Gulf Coast CP Populations" had moved to Sacramento, California in 1982 and was getting antsy to visit the southern bogs again. Jim flew to Atlanta and we headed down to the gulf on a lucky April 1st to visit Jim's old haunts and see the property.

We first checked out the damage to the *Sarracenia purpurea* subsp. *venosa* var. *burkii* and *Sarracenia psittacina* that were growing just off the highway in apron and drainage ditches west of Tallahassee. The roadside was recently mowed and the *S. purpurea* pitchers were cut in half. The shiny interiors of the traps were fully exposed and prominent in the short grass. About ten feet from the asphalt, Jim spotted a totally yellow-greenish leaf and bent down to take a closer look. The plant

had a number of growth points, which is fairly common when plants are subjected to multiple cuttings during their development.

Finding very green S. *purpurea* subsp. *venosa* var. *burkii* plants in dense wire grass and heavily shaded niches is very common in southern forests. When a plant at first glance appears to be totally green, it usually turns out to have some minute red venation near the nectar roll (rim), or a reddish color on newly forming immature pitchers. Jim carefully spread the pitchers apart and tried to detect the usual light pink or red pigments in the remaining halved leaves. None was found, but we only had a bisected pitcher to work with.

Realizing that this plant could be an all-green form and growing in a very precarious location, Jim removed the plant for safe keeping and left a pup to maintain genetic diversity. We searched the immediate area for other possible anthocyanin-free plants. While some plants were very green, they all had some pink/red pigmentation in them. We concluded our visit and Jim was able to nurse the plant back to good health in his Sacramento greenhouse.

Sarracenia purpurea subsp. *venosa* var. *burkii* is the southern form of S. *purpurea* subsp. *venosa* and produces broader and typically larger pitchers than its more northern cousin S. *purpurea* subsp. *venosa*. The flower is not only larger, but is on a shorter, stouter peduncle, and produces pink rather than dark red petals. The anthocyanin-free plants are obviously reproducible mutants that lack pigmentation genes. The mutation is similar to that of the northern anthocyanin-free *Sarracenia purpurea* subsp. *purpurea* f. *heterophylla*. Apparently, direct habitat competition coupled with loss of habitat in general this century has restricted the distribution of this rare form. Also, the yellow-flowering form is genetically recessive and normal genetic blending with adjacent red *S. purpurea* cancels the full recessive color features.

Jim and I lost contact with each other for a number of years and I became oblivious to the actual growing status of the plant. In the meantime, Leo Song was able to leave his *Nepenthes* loaded greenhouses at California State University at Fullerton for a quick field trip in May of 1987. We drove down to my bog and it was here, while walking through the field of *Sarracenia leucophylla* and *S. purpurea*, that I found the second anthocyanin-free *Sarracenia purpurea* subsp. *venosa* var. *burkii*. Wow! And right there on my own property. The bog had been burned in February and the eerie greenish-yellow plant stood out like a beacon against the charred organic soil. This plant immediately brought back fond memories from my earlier trip with Jim and I eagerly extracted this specimen for closer observation back home.

Sad to say, the plant was lost (via unauthorized removal) from my collection by someone who apparently needed it more than I. While the loss was traumatic at the time, I knew as a plant propagator/breeder that the genetic structure for more anthocyanin-free plants could still be within one or more of the plants at the farm. The only problem was determining which one. I needed to capture seed from a heterozygous plant that carried the yellow recessive genes and hoped it was either self-pollinated or outcrossed to another heterozygous plant with the exact genetic codes to allow the recessive yellow characteristics to remain and become fixed in the gene pattern. These complicated mating scenarios, coupled with the fact that predators of all sorts destroy a substantial number of ripening seed pods, made the actual task of finding and producing more yellow-flowering plants a daunting one. Nevertheless, I began the task in 1989 by collecting seed from about 25 plants that were growing adjacent to the area where the original yellow plant was found. Of the nearly 10,000 plants that were grown, not one exhibited the desired physical traits.

I quickly realized that I would have to change my strategy or accept the fact

that this particular detective effort could become a multi-decade project. Mother Nature's genetic engineering program is often measured in millennia and is therefore not coordinated with human life spans. Therefore, I extended the collecting range and sowed about 100,000 *S. purpurea* subsp. *venosa* var. *burkii* seeds. Eureka! A few seedlings popped up that immediately exhibited the anthocyanin-free eerie yellow green pitcher color. Remembering the loss problems of a few years earlier, I gave the seedlings to the Atlanta Botanical Garden for safe keeping. The seedlings have prospered under their care, flowered (pure yellow as expected, see Back Cover), and produced viable seed from which plants have been raised and will eventually be offered to members of the ICPS.

By the way, I managed to stumble onto a third anthocyanin-free plant of *Sarracenia purpurea* subsp. *venosa* var *burkii* in 1991. Again, it was right in my bog, about 100 meters from plant #2. While I could suspend the original detective project, I enjoy the challenge and now get sporadic crops of anthocyanin-free *S. purpurea* subsp. *venosa* var. *burkii* plants. I only sow about 50,000 seeds and feel that I am closing in on the heterozygous plant(s) in the field that produce(s) these unique yellow-green plants.

Jim has moved back to Tallahassee and his original plant #1 is still going strong and has produced several offshoots and, of course, those magnificent light yellow petals and yellowish (*luteola* in Latin) green pitchers.

Other than color, I have noticed only two major distinctions between the normal *Sarracenia purpurea* subsp. *venosa* var. *burkii* and the yellow-flowering form: (1)mature plants seem to be slightly smaller (reduced pitcher size), and (2)they do not produce as much pollen as the normal purple/red or mottled plants of this species. The more compact growth could be attributed to the age of our plants as well as to genetic growth factors related to being anthocyanin-free plants. A colony of these apparently rare yellow forms of *Sarracenia purpurea* subsp. *venosa* var. *burkii* plants will be established from my production plants and reintroduced to my bog for additional long term studies.

Finding anthocyanin-free plants of *Sarracenia purpurea* subsp. *venosa* var. *burkii* in the field is indeed rare. If anyone else has managed to stumble onto one while strolling through the southern savanna carnivorous plant bogs I would be interested in hearing from them. It will be interesting to note and document their additional occurrence along the southern gulf coast in future pages of ICPS publications.

Professional or graduate field ecologists and botanists interested in doing research studies on a private bog are welcome to use the property after their proposal is approved. I encourage its use for dedicated short or long term field research studies and projects to enhance carnivorous plant knowledge. Researchers will be able to observe and participate in field growing and production techniques that are currently being used and developed by carnivorous plant nurseries.

I am formally publishing the description of this taxon as follows:

Sarracenia purpurea L. subsp. *venosa* (Raf.) Wherry var. *burkii* Schnell f. *luteola* Hanrahan and Miller *f. nov.*

A var. *burkii* f. *burkii* partibus omnibus vegatativis anthocianino carentibus, his colore luteo-viride suffusis et petalis florum pallide luteis distinguenda.

Differs from var. *burkii* f. *burkii* in that all vegetative parts are yellow-green without anthocyanin, and flower petals are pale yellow.

TYPE: USA. Alabama, Baldwin County near Elsanor. Material from Hanrahan property near Elsanor, Alabama. Hanrahan and Miller 001. Holotype: (GA). The herbarium accession number at the University of Georgia is 222692.

ETYMOLOGY: Refers to pale yellow flower petals and yellow-green color of

leaves.

RANGE: Southernmost Alabama (Baldwin County) into western Florida to just west of Tallahasee. Infrequent.

HABITAT: Seep bogs and savannas.

Credits:

The authors wish to thank the editorial staff of Carnivorous Plant Newsletter for accepting, reviewing, and formalizing this document into a publishable state. Specifically, Joe Mazrimas for ICPS coordination and Dr. Barry Meyers-Rice for his botanical collaboration. Thanks are also due the staff of the Atlanta Botanical Garden under the direction of Ron Determann for producing and distributing plants at a nominal cost to the ICPS membership, Mike Moore of the University of Georgia Herbarium for cataloging and mounting the herbarium specimens, and special thanks must go to Dr. Donald Schnell, whose initial expert critique, suggestions, and guidance made this entire effort possible. And finally, to anyone who ever acquired plants from World Insectivorous Plants—indirectly, you contributed to the acquisition of the bog in which two of the three known naturally occurring plants of this very rare form were found and from which they will hopefully be propagated throughout eternity.

References:

Schnell, D. E. 1981, *Sarracenia purpurea* L. subsp *venosa* (Raf.) Wherry: Variations In The Carolinas Coastal Plain, Castanea, 46: 225-234.

Schnell, D. E. 1993, *Sarracenia purpurea* L. subsp. *venosa* (Raf.) Wherry var. *burkii* Schnell (Sarraceniaceae)—A New Variety Of The Gulf Coastal Plain, Rhodora, 95: 6-10.

Wherry, E. T. 1933, The Geographic Relations Of *Sarracenia purpurea,* Bartonia 15: 1-6.

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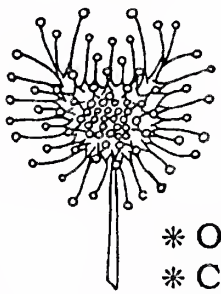

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Nepenthes sibuyanensis, A New *Nepenthes* From Sibuyan, A Remote Island of the Philippines

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Keywords: new taxa: *Nepenthes sibuyanensis*.
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Summary

A new species of *Nepenthes* from Mt. Guintguintin on Sibuyan Island, Philippines is described and illustrated.

Introduction

In September 1996, Thomas Alt, Phill Mann, Trend Smith and Alfred Öhm started an expedition to some Philippine islands in search for Nepenthaceae. One of these was Sibuyan Island; it belongs to a group of small isolated islands located between the Northern islands of Luzon/Mindoro and the Southern islands of Cebu. At the centre of Sibuyan Island there is a high mountain named Mt. Guintguintin with an altitude of 2057 m. Here three species of Nepenthaceae have been found. One of them, *Nepenthes sibuyanensis*, will be described in this paper; another one (*N. argentii*) was described recently (Jebb & Cheek, 1997).

Nepenthes sibuyanensis Nerz sp. nov.

Folia mediocria sessilia, lamina lineari-lanceolata, nervis longitudinalibus utrinque 5-6, basi in alas 2 decurrente, vagina 0.; ascidia mediocria v. maiora, ovata v. infundibuliformia, costis 2 prominentibus, nonnunquam ad os rudimento alae ciliatae ornatis; peristomio operculum versus acuminato in collum breve elongato, applanato, 20 mm lato, costis 1.5 - 2 mm distantibus, dentibus 5 x longioribus quam latis. Operculo ovato-cordato, facie inferiore plano; inflorescentia racemus parvus pedicellis 8 mm longis, omnibus 1-floris; indumentum in partibus vegetativis subnullum, in inflorescentiis densum adpressum, e pilis simplicibus compositum.

Holotypus: P. Mann & T. Smith, Mt. Guintguintin, Sibuyan island, Philippines, 1300 m above sea level, growing between *Dipteris* and high grasses on open slopes, 5/10/1996, 051001(L)[1]

Stems short, up to 0.7 m long, the part with adult leaves about 8 mm in diameter, cylindrical to asymmetrical in cross-section, the internodes 1-1.5 cm long. Leaves thin-coriaceous, sessile, linear-lanceolate or slightly spathulate, broadest little above the middle, 10 to 15 cm long, 3-3.5 cm broad, acute, gradually attenuate to the base, decurrent into 2 attenuate wings on two angles of the stem over 2/3 to nearly the whole internode. Longitudinal nerves 5 to 6 on each side, originating in the basal part of the midrib, running parallel in the outer half of the leaf; tendrils 1 to 2 times as long as the pitcher, about

[1]The sheet 051001 (L) contains a typical pitcher of *Nepenthes sibuyanensis*; this material was chosen as holotype because the pitcher of *Nepenthes sibuyanensis* is the most characteristic organ of this species.

2 to 3 mm thick near the leaf, 7 to 9 mm near the pitcher. Pitchers incurved from the hanging end of the tendril, the curve is tightly appressed to the pitchers; pitchers ovate to infundibuliform, 20 cm high, 12 cm wide in the widest part beneath the mouth, with two prominent ribs over the whole length, with 2 scarcely fringed wings in the upper 2/3 of the pitcher, 2 to 3 mm broad. Mouth oval, almost horizontal to slightly oblique, usually elongated into a short neck. Peristome cylindrical, 20 mm broad, the ribs 2 mm apart, 1 mm high, the teeth of the inner margin about 3 to 4 mm long, up to 5 times as long as broad. The whole inner surface of the pitcher is glandular. Glands at the bottom of the pitcher are approximately 500 cm^{-2}, overarched, about 0.1 to 0.2 mm in diameter, below the rim 200-250 cm^{-2}, about 0.5 to 0.8 mm in diameter, not overarched; lid broadly ovate-cordate, 8 cm long, 6.5 cm broad, rounded at the apex, usually slightly cordate, without appendages, small compared with size of mouth; glands ovate, deepened, 1 mm in diameter, concentrated at the central part; only few, scattered. Midrib of the lid prominent at the basal half, branching at the apical end into 2 to 3 longitudinal nerves. Longitudinal nerves 5 to 6 on each side, originating in the basal part of the lid, branched at the end. Spur filiform, 2-3 mm long, 0.5 mm in diameter, insertion at the base of the lid. *Male inflorescence* a raceme, the peduncle at least 18 cm long, 6 mm thick at the base, the axis 15 cm long, the pedicels all of them 1-flowered, with no or much reduced bract, the lower ones 12-14 mm long, the upper ones little shorter. Tepals oblong, about 3 mm long, obtuse. Staminal column about 5 mm long, the anthers inclusive. Anthers uniseriate. Fruit 18 to 22 mm long, the valves lanceolate, 3 to 4 mm broad. Seeds filiform, 8 mm long. *Indumentum:* In the vegetative parts almost none, the inflorescense very densely and adpressed stellate-hairy, staminal column sparsely covered with short hairs. *Colour* of herbarium specimens light brown to reddish, pitchers light brown to reddish, rim dark brown, pitchers with few reddish spots in the upper part, 5 to 10 mm in diameter. Interior of the pitcher shiny brown. Colour of living specimen: Leaves yellowish to dark green, midrib light green; pitchers yellowish to orange, sometimes with some few scattered red spots beneath the mouth, 5 to 10 mm in diameter, rim dark red to black, lid yellowish to orange (Figure 1, page 22; Figure 2, page 23).

Distribution and Ecology

Nepenthes sibuyanensis is known only from its type locality at Mt. Guintguintin, Sibuyan Island; here it grows quite sparsely on open grassy slopes among *Dipteris conjugata* and high grasses; small shrubs also grow in the same area. It occurs at altitudes from 1500 to 1800 m. Characteristically the pitchers are hidden in the ground; the pitchers are of pale yellow to slightly reddish colour with some red spots. The rim is usually dark red to blackish. The only pitcher which has been found growing in the sun was orange to reddish with a shiny red rim. At Mt. Guintguitin two more species of *Nepenthes* have been found, one grows in abundance at lower altitudes (800-1000 m) in bushes and seems to be closely related to *N. alata*. The other one is a small new species which has been found at about 1800 m above sea level on steep slopes in open places. Very few specimens of it have been found. This species has been described recently as *Nepenthes argentii* (Jebb & Cheek, 1997, pp. 19-22). A range map is included in Figure 3, page 23.

Systematic Links

The characteristics of *Nepenthes sibuyanensis* show it to be a member of the group *Insignes*, to which belong *Nepenthes merrilliana* Macfarl., *Nepenthes insignis* Danser, *Nepenthes burkei* Masters and *Nepenthes ventricosa* Blanco. These species seem to be the nearest relatives of *Nepenthes sibuyanensis*. It is remarkable that *Nepenthes sibuyanensis* shows morphologic features which are intermediate especially between *Nepenthes merrilliana* Macfarl. and *Nepenthes ventricosa* Blanco. Also geographically, *Nepenthes sibuyanensis* is situated between these two species. *Nepenthes merrilliana* Macfarl. is only known from Mindanao, an island located South of Sibuyan, and *Nepenthes ventricosa* Blanco is just known from Luzon, North of Sibuyan. Maybe *Nepenthes sibuyanensis* is a species intermediate between *Nepenthes merrilliana* Macfarl. and *Nepenthes ventricosa* Blanco.

Characteristics	*Nepenthes sibuyanensis*	*Nepenthes merrilliana*	*Nepenthes insignis*	*Nepenthes burkei*	*Nepenthes ventricosa*
teeth of interior margin of rim	distinct teeth, 5 times aa long as broad, 5 mm long	teeth of interior margin of rim as long as broad, amall, 1 mm long	teeth of interior margin of rim as long as broad, small, 1 mm long	teeth of interior margin of rim aa long as broad, small, about 0.5 to 1mm long	teeth of interior margin of rim 2 to 3 times aa long as broad, 1 to 2 mm long
rim	with distinct, 1 mm deep ribs, 2 mm apart	ribs 0.5 to 1 mm apart	ribs 0.5 to 1 mm apart	ribs 0.5 to 1 mm apart	ribs 0.5 to 1 mm apart
neck of rim	borders of rim close together at neck, with a distinct neck	borders of rim do not fit together at the upper end near the lid, leaving a distinct gap	rim towards the lid without neck	rim towards the lid with alightly developed neck	rim towards the lid without or with slightly developed neck
wings	pitchers without or just slightly developed wings in the upper half of the pitcher	lower pitchers with well developed, fringed wings	lower pitchers rarely with 2 narrow wings	lower pitchers without or just slightly developed wings in the beyond the rim	lower pitchers without wings
shape of lower pitchers	ovate to slightly infundibulate	ovate	ovate in the lower half, cylindric in the upper half	ventricose below, slightly constricted in the middle	slightly ventricose below, constricted in the middle
lid	broadly ovate-cordate, 8 cm long, 6.5 cm broad, glands at the lower surface rather large, concentrated at the central part of the lid, few, scattered	ovate, 12 to 14 cm long, 5 to 6 cm broad, few minute glands at the lower surface	orbiculate to ovate, up to 5 cm long, up to 4.5 cm broad, many glands at the lower surface, rather large, aggregated near the 2 main lateral nerves, missing in the median and lateral part	ovate-cordate, 5 to 8 cm long, 3 to 5 cm broad, few glands at the lower surface, aggregated near the lateral nerves	ovate-cordate, 3 to 4 cm long, 2 to 3 cm broad, small compared with the size of mouth/few glands at the lower surface, aggregated near the lateral nerves
insertion of mouth	almost horizontal	distinct oblique	slightly oblique	slightly oblique	almost horizontal
size of pitchers	up to 26 cm	up to 30 cm	20 to 35 cm	15-20 cm	10-15 cm
male inflorescence	1-flowered	2-flowered	2-flowered	1-flowered	1-flowered
growth form	in grassy area, plants short, 0.5-0.7 m, no climbing plants known	sometimes climbing up to several meters in shrubs	frequently epiphytic on trees, shortly climbing	unknown	climbing in shrubs, up to 2 m

Table 1: Species that seem to be closely related to *Nepenthes sibuyanensis* are compared. Characteristics clearly distinguishing *Nepenthes sibuyanensis* from *Nepenthes merrilliana*, *Nepenthes insignis*, *Nepenthes burkei*, and *Nepenthes ventricosa* are shown.

Specimens Examined

Nepenthes sibuyanensis: P. Mann & T. Smith, pitcher, Mt. Guintguintin, Sibuyan island, Philippines, 1300 m above sea level, growing between *Dipteris* sp. and high grasses on open slopes, 5/10/1996, 051001(L-holotype); P. Mann & T. Smith, Mt. Guintguintin, vegetative part without pitchers, Sibuyan island, Philippines, 1300 m above sea level, 5/10/1996, 051002 (L); P. Mann & T. Smith, Mt. Guintguintin, fruit, Sibuyan island, Philippines, 1300 m above sea level, 5/10/1996, 051003 (L); P. Mann & T. Smith, Mt. Guintguintin, male flower, Sibuyan island, Philippines, 1300 m above sea level, 5/10/1996, 051004 (L).

Nepenthes merrilliana: D. Mendosa & P. Convocar, Mt. Kabatuan, Surigao Province, April 1919, 10523 (MAN); M. Ramos & J. Pascasio, Surigao Province, Mindanao, 34503 (BO).

Nepenthes insignis: *Brass,* 4 km SW of Bernhard Camp, Idenburg Rivier, 3/1939, 13379 (BO); 8 km SW of Bernhard Camp, Idenburg Rivier, 3/1939, 13669 (BO); Docters van Leeuwen, border of affluent C of the Rouffaer River, 250 m, 9/1926, 10258 (BO-type), Docters van Leeuwen, Rouffaer River, 9/1926, 10286 (BO), Pulle 277, Border of the Beaufort River, 80 m, 9/11/1912, 201110 (L).

Nepenthes ventricosa: H. C. Conklin & Buwaya, Bayninan, Banaue, Ifugao, Mt. Province, Luzon, 5000 ft. above sea level, 29/3/1963, 79644 (L); G. E. Edano, Mt. Magnas, Apayao Subprovince, Luzon, June 1953, 19754 (MAN); D. R. Mendosa, Sumigar, Banaue, Ifugao, forest slope or open and on road cuts, 17/5/1967, 97469 (MAN).

Nepenthes burkei: G. E. Edano, Mt. Halcon, Mindoro, summit 2828 m, 15/2/1948, 3375 (MAN); C. E. Ridsdale, M. J. E. Coode, E. Reynoso, N-coast Mindoro, Subaan River headwaters, inland from San Teodoro, mossy forest on ridge, 920 m, 2/5/1986, 5689 (K).

Besides the study of herbarium material we had also the opportunity to examine living plants of *Nepenthes merrilliana* at its natural habitat at 'Red Hill', Mindanao and to examine living cultivated material of *Nepenthes ventricosa* and *Nepenthes burkei* in several Botanic Gardens and private collections.

Acknowledgments

We would like to thank Heiko Rischer and Andreas Wistuba for helpful general discussions and Matthias Schmidt for preparing the illustrations.

References:

Blanco, F. M. 1837, *Nepenthes*, Flora de Filipinas, 1, ed., pp. 805-809.

Danser, B.H. 1928, The Nepenthaceae of Netherlands Indies, Bull. Jard. Bot. Buitenzorg, 3. Ser. 9 (Livr. 3-4).

Jebb, M. & M. Cheek 1997, A Skeletal Revision of *Nepenthes* (Nepenthaceae), Blumea, 42, 1-106.

Macfarlane, J.M. 1927, The Philippine Species of *Nepenthes*, The Philippine Journal of Science, 33 (2), 127-140.

Macfarlane, J.M. 1911, New Species of *Nepenthes*, Contributions from the Botanical Laboratory of the University of Pennsylvania, 3 (3), 207 ff.

Masters, M.T. 1889, New or Noteworthy Plants, The Gardeners' Chronicle, 3. ser. 6, 492.

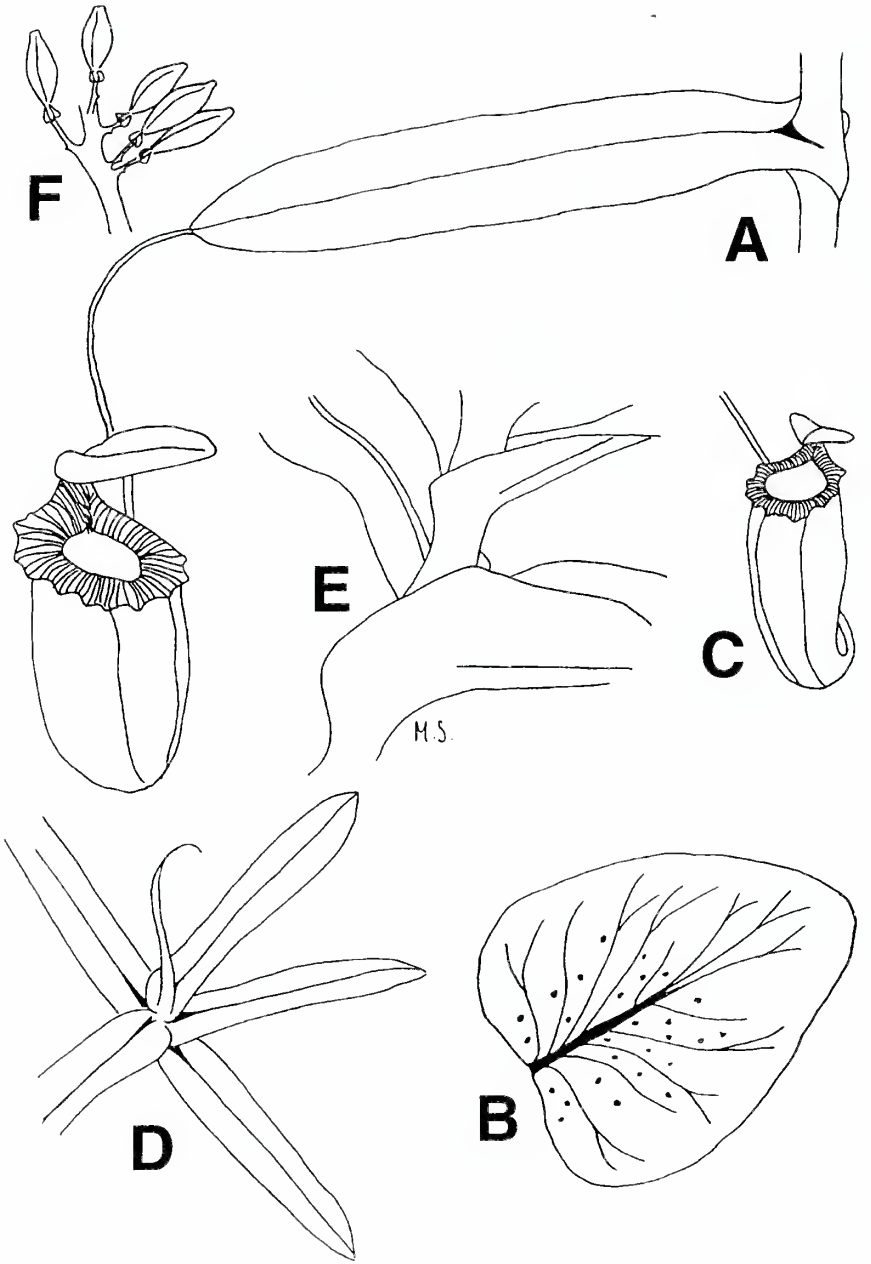
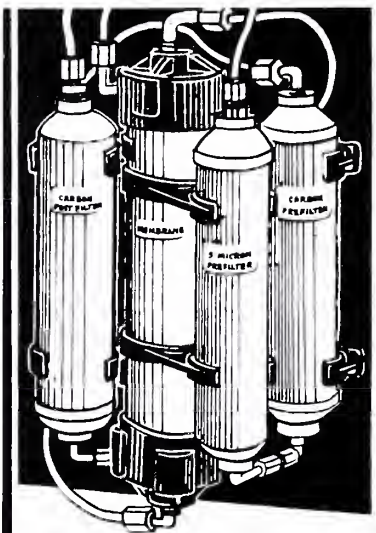


Figure 1: *Nepenthes sibuyanensis*. A. leaf with typical pitcher. B. lower surface of lid. C. pitcher from a sunny position. D. typical rosette. E. stem with insertion of leaf. F. ripe capsules.

Figure 2: *Nepenthes sibuyanensis*

Figure 3: Distribution of *Nepenthes sibuyanensis*, *Nepenthes merrilliana*, *Nepenthes ventricosa* and *Nepenthes burkei* at the Philippines.



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U. uliginosa
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S. flava Ben Hill Cty, Georgia
S. flava Fitzgerald, Georgia
S. flava "veined" Fitzgerald, Georgia
S. flava New Bern, NC
S. leucophylla
S. leucophylla "green w/ white & red tops"
S. minor Fitzgerald, Georgia
S. oreophila "green"–inquire
S. psittacina Fitzgerald, Georgia
S. purpurea purpurea
S. purpurea venosa NC Mountains
S. purpurea purpurea heterophylla
S. purpurea venosa
S. rubra gulfensis
S. minor & *S. psittacina* Fitzgerald, Georgia seeds-mixed
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S. alata × *purpurea venosa* "pubescent"
S. flava × *leucophylla*
S. flava × *leucophylla* Milton, Florida
S. flava "Oke Giant" × *purpurea venosa*
S. flava × *rubra* "green with goldtops"
S. (*leucophylla* × *oreophila*) × *purpurea purpurea*
S. (*leucophylla* × *oreophila*) × self
S. oreophila × *flava*
S. (*oreophila* × *purpurea purpurea*) × self
S. (*oreophila* × *rubra*) × self
S. purpurea × *alata* Ltd
S. purpurea × *flava*
S. purpurea × *leucophylla*
S. psittacina × *minor* Fitzgerald, Georgia
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D. anglica Norway (2 pkts in bank)
D. binata dichotoma "small"
D. binata North Plains, NZ
D. brevifolia "white flower" Hampstead, NC
D. brevifolia
D. burkeana
D. burmanni
D. burmanni Beerwah, QLD
D. capensis
D. capensis "green"
D. capensis "red narrow leaf"
D. capensis "red" (2 pkts in bank)
D. capensis "wide leaf"
D. capensis "narrow leaf"
D. capensis "white flower" or "alba"
D. capensis "purple flower"
D. capillaris
D. collinsiae
D. communis
D. cuneifolia (=admirabilis)
D. dielsiana
D. filiformis filiformis
D. montana
D. natalensis
D. nidiformis
D. pulchella "pink flower"
D. rotundifolia Mendocino Cty, California
D. spatulata
D. spatulata "hairy sepals", Gympy QLD
D. spatulata "pink flower"
D. spatulata Kanto
D. spatulata Kansai, Japan
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Announcing a Test and Trial Phase for the Registration of new Plant Names (1998-1999)

L. Borgen, W. Greuter, D. L. Hawksworth,
D. H. Nicolson & B. Zimmer
Officers of the International
Association for Plant Taxonomy (IAPT)

Keywords: new taxa.
Received: 13 November 1997

(A comment from the editors—The following article describes a new protocol involving Carnivorous Plant Newsletter and the scientific naming of new plants. Readers of the Newsletter need only know that all new botanical plant names are automatically registered with the appropriate agencies.)

Introduction

Subject to ratification by the XVI International Botanical Congress (St Louis, 1999) of a rule already included in the International code of botanical nomenclature (Art. 32.1-2 of the Tokyo Code), new names of plants will have to be registered in order to be validly published after the 1st of January 2000. To demonstrate feasibility of a registration system, the International Association for Plant Taxonomy (IAPT) undertakes a trial of registration, on a non-mandatory basis, for a two-year period starting 1 January 1998. The co-ordinating centre will be the secretariat of IAPT, currently at the Botanic Garden and Botanical Museum Berlin-Dahlem, Germany. Co-ordination with present indexing centres for major groups of plants is being sought, in view of their possible active involvement at the implementation stage.

Registration Procedure

The co-ordinating registration centre (IAPT Secretariat), and any associated centre operating under its auspices, will register and make available all names of new taxa, all substitute names, new combinations or rank transfers that are brought to their attention by being published in an accredited journal or serial. For a journal or serial to be accredited, its publishers must commit themselves, by a signed agreement with the IAPT, to point out any nomenclatural novelties in each individual issue of their journal or serial, either by including a separate index of novelties or in another suitable, previously agreed way and to submit each individual issue, as soon as published and by the most rapid way, to a pre-defined registration office or centre. Accredited journals and serials will be entitled, and even encouraged, to mention that accreditation on their cover, title page or in their impressum. A permanently updated list of accredited journals and serials is being placed on the World Wide Web. This list will be published annually in the journal Taxon.

Authors of botanical nomenclatural novelties that do not appear in an accredited journal or serial are strongly encouraged to submit their names for registration—and will be required to do so once registration becomes mandatory by listing all names to be registered on an appropriate form (using a separate form for each separate publication). Details and forms are posted on the WWW (http://www.bgbm.fu-berlin.de/iapt/registration/) or can be obtained from the IAPT secretariat (Königin-Luise-Str. 6-8, D-14191 Berlin, Germany).

Registration Date

The date of registration, as here defined, will be the date of receipt of the registration submission at any national registration office or appropriate registration centre. For accredited journals or serials it will be the date of receipt of the publication at the location of the registration centre (or national office, if so agreed).

For the duration of the trial phase, i.e. as long as registration is non-mandatory, the date of a name will, just as before, be the date of effective publication of the printed matter in which it is validated, irrespective of the date of registration. Nevertheless, the registration date will be recorded, for the following reasons:

1) To make clear that the name was published on or before that date, in cases when the date of effective publication is not specified in the printed matter;

2) To assess the time difference between the (effective or stated) date of the printed matter and that of registration, since it is envisaged that the date of registration be accepted as the date of names published on or after 1 January 2000.

It is therefore in the interest of every author to submit nomenclatural novelties for registration without any delay, and by the most rapid means available. (Nomenclatural novelties published in Carnivorous Plant Newsletter will be sent automatically to the registration centre directly by Carnivorous Plant Newsletter, so the authors do not need to register their novelties themselves—JS)

Access To Registration Data

Information on registered names will be made publicly available as soon as feasible, (a) by placing it on the World Wide Web without delay in a searchable database, (b) by publishing non-cumulative lists biannually, and (c), hopefully, by issuing cumulative updates on a CD-ROM-type, fully searchable data medium at similar intervals.

Testing The System

To make the test effective and significant, it is important that everyone publishing nomenclatural novelties on or after 1 January 1998 should participate by registering all new names and combinations on a voluntary basis. Please help (a) by doing so yourself and (b) by spreading the message to others!

Do not be put off if shortcomings or errors occur in the initial months. Remember, this is a test phase. Let us know of any bug or crinkle in the system, and we will iron it out. What matters is that everything operates smoothly by the end of 1999, and that by the next Congress all have satisfied themselves that it will.

We believe that registration of new names, once implemented in a functional way, will be a great benefit for all concerned with but little inconvenience for cost—and so felt the Nomenclature Section at Yokohama in 1993. Nomenclature must be fit for a good start into the next millennium. Let us work together to make it happen.

(Carnivorous Plant Newsletter is a journal accredited for registration of nomenclatural novelties in the sense of this announcement. This affects all names of new taxa and new combinations published in Carnivorous Plant Newsletter according to the International Code of Botanical Nomenclature (ICBN). Names of new cultivated carnivorous plants published in Carnivorous Plant Newsletter according to the International Code of Nomenclature for Cultivated Plants (ICNCP) are not affected. These are registered directly by the ICPS, which is the forthcoming International Registration Authority (IRA) for carnivorous plants.—JS)

The Correct Naming of Carnivorous Plants: ICBN, ICNCP, and the Roles of CPN and ICPS

Jan Schlauer
CPN Editor

Keywords: cultivar — new taxa.

Introduction

There is no better way for the transmission of information on a particular plant than to use a name for it that can be translated into a widely agreed definition including the plant and all other plants that are similar. There are several sets of rules governing the proper process of establishment or valid publication of plant names. Differences of opinion are an intrinsic part of the evolution of knowledge and thus also an element in the progress of plant classification. There is no fixed rule on how to coin definitions and this text will not deal with these problems but rather with the question of how to name the different plant groups.

What Do I Have?

Before a name can be given to a plant or group of plants, its nature must be determined. There are two different modes to deal with plants: either the plant in question is part of the biotic evolution in nature (i.e. a representative of a population of individuals) or it is a result of the efforts of a breeder, and deserves particular merits because of desired traits. In the first case, we are dealing with a taxon (plural taxa), in the second case with a cultivated plant. Taxa have a phylogenetic meaning (they are supposed to reflect stages in the natural process of the development of species), and they are named scientifically according to the International Code of Botanical Nomenclature (ICBN). Cultivated plants have a meaning for the plant trade, and they are named according to the International Code for the Nomenclature of Cultivated Plants (ICNCP).

Do I Have Something New?

If a taxon was described already (i.e. if the taxon has been given a valid name according to the ICBN) or if an established name is available for a cultivated plant (according to the ICNCP), the plant must be referred to using this name. No other name may be applied. If no valid or established name is available, the plant may be named by any person. It is the responsibility of such an author to make sure that the plant in question does not belong to a taxon and/or is not a cultivated plant that has received a valid or established name previously (a point where we may enter the difficult region of definition and limits).

How Do I Name Something New?

In order to receive valid names, taxa must be described in a protologue (original description) in Latin language and (if the rank of the taxon is species or below) represented by a conserved specimen (dried or in alcohol), the so-called type. The description should highlight all features defining the new taxon (at least the diagnostic ones which distinguish it from other taxa). The name of a taxon must be in Latin, it must not be identical with a name already published before, and it must conform to the intended rank of the taxon (please refer to the ICBN for the definition of ranks). The description must be published effectively (i.e. in a publicly accessible source of information for botanists), and it must include a reference to the type specimen and to the institution at which the type is stored permanently. In special cases several other rules of the ICBN have to be followed, and all taxonomists should know the entire text of the ICBN (1993) before they publish their first new name.

The naming of cultivated plants is different in some respects. In order to name a cultivated plant, it must be described in a modern language highlighting its differences from other plants. A standard has to be chosen for the cultivated plant. This standard should be a high quality colour photograph for cultivars (see below) of carnivorous plants. There are three categories (called "taxa" in the ICNCP; this term is omitted here because of possible confusion with taxa in the sense of the ICBN) of cultivated plants: cultivars (by far the most common category, and the only one used for carnivorous plants so far), graft-chimaeras, and cultivar-groups (assemblages of two or more cultivars belonging to a ICBN-taxon within which the use of a cultivar name may not be duplicated, the so-called denomination class). Cultivars do not have a taxonomic rank of their own but they belong to the taxon from which they were derived (by cultivation). A cultivar name consists of the scientific name of the taxon it belongs to plus an additional name, the so-called cultivar epithet, which is an expression in a modern language. A cultivar epithet must be different from all cultivar epithets previously established within the respective denomination class. In order to distinguish cultivar epithets from scientific names, cultivar epithets must be written with capital initial letters and they must be enclosed in single quotation marks. An established cultivar name is e.g. *Nepenthes mirabilis* 'Greenhorn'. Several additional rules, as well as a quick-guide are laid down in the ICNCP (1995), and authors who want to establish new cultivar names should consult this text for further information.

Registration

The future registration of taxon names with the International Association for Plant Taxonomy has been announced in this issue of Carnivorous Plant Newsletter (see article on page 25). Cultivar names of carnivorous plants are registered by the ICPS, the forthcoming International Registration Authority for carnivorous plant cultivars. All descriptions of cultivar names submitted to Carnivorous Plant Newsletter will be registered automatically, and no action by the authors is necessary. It is therefore required that all such submissions conform with the ICNCP and the criteria for cultivar registration (incl. names and addresses of the originator, nominant, introducer, and registrant, the respective years, the parentage of the cultivar, particulars of associated patents, trade-marks, or plant breeders' rights, awards received with dates and name of the awarding body). Registration of names established in Carnivorous Plant Newsletter is free of charge, as a service to the members of the ICPS.

In order to be established, all cultivar names of carnivorous plants not established in Carnivorous Plant Newsletter must be registered with the ICPS by submission of the data mentioned in the Notes for IRAs of the ICNCP to one of the co-editors of Carnivorous Plant Newsletter. All expenses arising from registration of names not established in Carnivorous Plant Newsletter will be charged to the registrant.

References:

ICBN 1994 International Code of Botanical Nomenclature (Tokyo Code), Greuter, W., Barrie, F. R., Burdet, H. M., Chaloner, W. G., Demoulin, V., Hawksworth, D. L., Jørgensen, P. M., Nicolson, D. H., Silva, P. C., Trehane, P., and McNeill, J. (eds.), Adopted by the Fifteenth International Botanical Congress, Yokohama, August-September 1993, Regnum Vegetabile 131. Koeltz Scientific Books, Königstein, Germany, ISBN 3-87429-367-X or 1-878762-66-4 or 80-901699-1-0. http://www.bgbm.fu-berlin.de/iapt/nomenclature/code/tokyo-e/default.htm

ICNCP 1995 International Code of Nomenclature for Cultivated Plants, Trehane P., Brickell, C. D., Baum, B. R., Hetterscheid, W. L. A., Leslie, A. C., McNeill, J., Spongberg, S. A., and Vrugtman, F. (eds.), Adopted by the International Commission for the Nomenclature of Cultivated Plants, Regnum Vegetabile 133. Quarterjack Publishing, Wimborne, UK, ISBN 0-948117-01-X.

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Logo Contest Reminder

Do not forget that the International Carnivorous Plant society is holding a contest to develop a logo and we are nearly upon the deadline for submitting entries. Here are the guidelines (complete details are in issue 26:4). The design must be black and white, should feature the letters "ICPS", and must retain its value even when reduced to a few centimeters in size. Artwork should be submitted in excellent condition for computer digitization and reduction. The design should fill approximately a 10 cm × 10 cm (4 inch × 4 inch) area. Computer files of a common format (TIF, GIF, JPEG) may also be submitted on a PC diskette. All submissions must be *received* by Rick Walker by 20 April, 1998 (see the inside cover for his address). Please include your phone number so we may reach you rapidly. Be judicious with your designs—details and delicate shadings are likely to be lost in the scanning and reduction stages. While funny, joke logos depicting bloodthirsty plants will probably not win the top prize.

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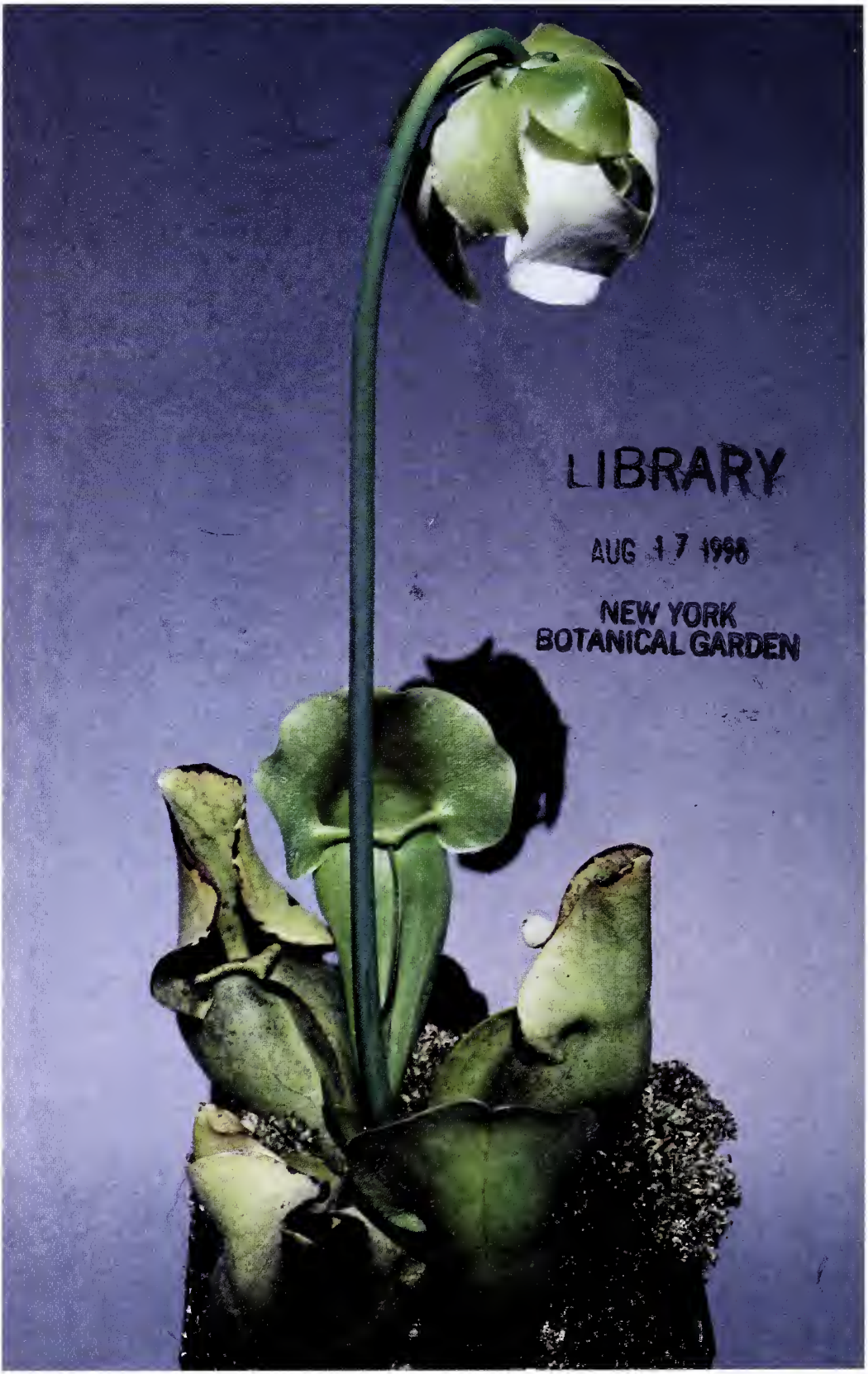

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